

## ABSTRACT

A method and apparatus are provided for determining the preload in a dental implant system. The preload is determined by transmitting a sonic impulse, which is preferably an ultrasonic impulse, at a predetermined frequency to the head of the implant screw through a transducer, which may be incorporated into the head of the screw, the head of a wand which generates the sonic impulse, or the transducer and pulse-generating instrumentation may be incorporated into a torque generating instrument used to tighten the screw. The preload is determined by measuring the delay between the first and second reflections through the preloaded screw to determine a preload value and comparing that value with a pre-established baseline value for the screw, and comparing the difference with a predetermined table of values to determine the preload on the screw.

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